

## **REMARKS/ARGUMENTS**

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicant originally submitted Claims 1-30 in the application. In response to the present office action, the Applicant has amended Claim 1 and withdrawn Claims 22-30. Accordingly, Claims 1-21 are currently pending in the application.

### **I. Restriction requirement**

The Applicants hereby confirm the election, without traverse, to prosecute Claims 1-21 (Group I) in the present application. Group II (Claims 22-28) and Group III (Claims 29-30) are withdrawn pursuant to 37 C.F.R. § 1.142(b).

### **II. Rejections to Claim 2 Under §112 First and Second Paragraph**

The Examiner rejected Claim 2 as failing to comply with the enablement requirement under 35 § U.S.C. 112 first paragraph. The Examiner further rejected Claim 2 under 35 § U.S.C. 112 second paragraph as being indefinite. Specifically, the Examiner asserts that it would be an undue burden of experimentation to determine whether a thermoconductive polymer as recited in Claim 2, has a thermal conductivity of greater than about 1 Watts m<sup>-1</sup> K<sup>-1</sup> and an electrical volume resistivity of greater than about 1 x 10<sup>15</sup> ohm cm<sup>-1</sup> at 25°C. The Examiner further states that the claim covers all compositions that satisfies a particular mathematical relationship, whereas the

application provides support for only a very limited number of such compositions. The Applicant respectfully disagrees.

The Applicant wishes to point out that Claim 2 is not directed to all compositions of matter covered under a mathematical relationship. First, Claim 2 is dependent on Claim 1, a heat conductive polishing pad for chemical-mechanical polishing. Claim 1, in turn, recites that a polishing body of the pad includes a thermoconductive polymer having a substrate with filler particles contained therein wherein the filler particles contain a Group II salt comprising magnesium. Therefore only those thermoconductive polymers that are within the scope of Claim 1 are covered by Claim 2.

Second, Claim 2 does not present a mathematical relationship. Rather, Claim 2 sets forth in definite terms, the physical properties of advantageous embodiments of the thermoconductive polymer recited in Claim 1. Furthermore, the Applicant submits that one of ordinary skill in the art would readily be able to measure thermal conductivity and electrical volume resistivity of the thermoconductive polymer using conventional procedures.

Therefore, the Applicant maintains that Claim 2 is enabled and definite, and respectfully requests that this claim be passed to issue.

### **III. Rejection of Claims 1-21 under Judicially Created Obviousness-Type Double Patenting**

The Examiner has rejected Claims 1-21 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-47 of U.S. Patent No. 6,579,604. While the Applicant does not necessarily agree with the Examiner's rejection, the Applicant file concurrently with this Response, a Terminal Disclaimer in compliance with 37 CFR 1.321(c) that

removes the basis for the double patenting. Accordingly, the Applicant requests the Examiner withdraw these rejections.

#### **IV. Rejection of Claims 1-21 under 35 U.S.C. §102**

The Examiner has rejected Claims 1-21 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,659,846 to Misra *et al.* (“Misra”) or U.S. Patent No. 5,510,174 to Litman (“Litman”). The Applicant respectfully disagrees.

As noted above, Claim 1 recites that a heat conductive polishing pad for chemical-mechanical polishing comprises a polishing body that includes a thermoconductive polymer having a substrate with filler particles contained therein wherein said filler particles contain a Group II salt comprising magnesium. In contrast, Misra is directed to a polishing pad formed of a plurality of particles of abrasive material disposed in a matrix material (abstract). Misra provides no teaching regarding the use of a thermoconductive polymer in a CMP pad. Moreover, Misra discloses the use of abrasive materials made of inorganic material such as silica, calcium carbonate, alumina silicate, feldspar, calcium sulfate, glass or sintered carbon. There is no disclosure that the abrasive materials can be a Group II salt comprising magnesium. Therefore, because Misra does not disclose each and every element of the claimed invention, it is not an anticipating reference.

Litman similarly fails to teach a polishing body that includes a thermoconductive polymer as recited in Claim 1. First, the Applicant can find no teaching that the thermally conductive materials disclosed by Litman can serve as the polishing body for a CMP pad. If such a teaching does exist, the Applicant would appreciate it if the Examiner would point out where in Litman this can be found. Rather, Litman discloses the use of such materials in elastomeric pads, films, tapes,

compounds, adhesives and greases (Column 2, Lines 20-25). Second, Litman uses titanium diboride ( $\text{TiB}_2$ ) as the thermoconductive filler (Abstract). There is no disclosure that the filler can be a Group II salt comprising magnesium. Therefore, Litman also fails to disclose each and every element of the claimed invention and as such, is not an anticipating reference.

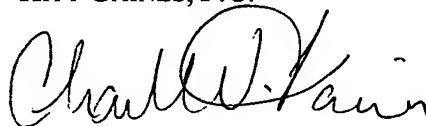
Therefore, neither Misra nor Litman disclose each and every element of the claimed invention and as such, are not an anticipating references for Claim 1. Because Claims 2-21 are dependent upon Claim 1, Misra or Litman also cannot be an anticipating reference for these Claims. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejection with respect to Claims 1-21.

#### **V. Conclusion**

In view of the foregoing amendments and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a timely Notice of Allowance for Claims 1-21.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,  
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